

Phase 2 non-DEER Workpaper Review

November 15, 2010, 2010

The Administrative Law Judge (ALJ) Ruling in A.08-07-021 et al., dated November 18, 2009, adopted requirements and procedures for Utilities to submit non-DEER measure workpapers for Energy Division review and approval. This document describes the Phase 2 Standard Ex Ante Review and Approval Process, attached as Appendix A. Specifically, this document addresses three sections of the Attachment to the Ruling:

- 3A. Uniform Workpaper Template
- 3B. Standardized methods for weighting together or utilizing DEER measures in the development of non-DEER measures
- 3C. Web-Based Submission Database and Tracking System

NOTE: In March 2010, the DEER team developed for ED revisions to nonresidential lighting, residential lighting and residential appliance measures and published them in the form of Excel workbooks. ED had intended for these workbooks to be used as part of the Phase 1 workpaper review, but instead agreed with the utilities that these workbooks would be the basis for any applicable measures (lighting and appliance) submitted for the Phase 2 review. The *“Energy Division-Joint Utilities Status Update 2010-2012 DEER and NonDEER Measure Ex-Ante Values Review,”* sent to the Utilities on May 21, 2010, states in Section E that *“Energy Division and the Utilities agreed in the April 9, 2010, meeting, Utilities will use the ED DEER Team developed lighting and appliances workbooks, aka Workbooks 3.02, moving forward in the 2010-12 EE Cycle for applicable new measure ex ante estimates submitted under “Phase 2” outlined in the November 18, 2009 ALJ ruling.”*

The following five sections are covered by the Attachment to the November 18, 2009, Ruling in A.08-07-021 et al.:

- 3D. Preliminary Review
- 3E. Detailed Review
- 3F. Measure Disposition on Review
- 3G. Resubmission
- 3H. Retrospective Review

NOTE: At this time, ED plans to implement Sections 3D-H of the Attachment to the November 18 Ruling as written in that attachment without changes. After review of the first several workpapers, ED may choose to make revisions to the procedures in the Attachment. The section of the Attachment that covers Phase 2 workpaper reviews is included with this document for reference.

3A. Uniform Workpaper Template

The purpose of the Uniform Workpaper Template is to ensure that the minimum required information is submitted in support of a measure or group of measures. Energy Division recognizes the volumes of workpapers that the utilities have already prepared and the amount of resources that would be required to convert existing workpapers to a uniform workpaper template. Thus, the uniform

workpaper template will be implemented in at least two stages. The first stage, for the near term, will be the requirement for completion of an executive summary table that catalogues the information and supporting materials necessary for Energy Division review. The second stage, for new measures workpapers developed starting in 2011, will require certain portions of workpaper contents to be provided in a standardized electronic format. The workpaper standardized electronic format will be compatible with the final tracking data format being developed concurrently by Energy Division. The draft standardized electronic format will be provided to Utilities for review by March 31, 2011.

The executive summary table is provided in the attached file: NonDEER_Phase2_Workpaper_ExecSum-101115.xlsx. The required sections are described in more detail below:

Table 1: Measure Description and Applicability

Measure Name: Name of the measure assigned by the Utility

Measure Description: Detailed description assigned by the Utility

Building Type or Process: The list of specific building types, processes or applications to which the measure is applicable. Currently, many building types are defined in DEER (e.g.; Large Office, Primary School, Refrigerated Warehouse, etc.), but the *Building Type or Process* may also include specific process types (such as "Dairy") or groups of buildings (such as "All Schools").

Building Vintage: If characteristics of *Building Type or Process* vary by vintage, then the *Building Vintage* specifies vintage(s) the measure applies to. For building specific measures, vintages generally fall into the two categories of "Existing" and "New Construction." The "Existing" vintage is represented by a weighted value of the five current DEER vintages. There may be program or measure specifications that target more specific ages, such as: "industrial ventilation systems installed and commissioned prior to 1990" or "manufactured and mobile homes built prior to 1980."

Building HVAC Type: If the measure is applicable to buildings, specifies the building HVAC type that the measure applies to. Depending on the building type, there are currently up to ten *Building HVAC Types* for a given *Building Type*.

Location: The location can be the service territory for a specific Utility, a Title 24 climate zone, or a more generalized geographic region. When specific geographic regions are targeted (without consideration of the Utility service territory) building specific measures with weather sensitive impacts or interactive effects should specify Title 24 climate zone. Some agricultural measures such as irrigation pumping measures may be more generally classified by region (such as central valley, north coastal, etc.).

Table 2: Measure Technology Summary

The measure technology summary table is used to classify each of the three possible cases that comprise a measure: customer average (CA), code baseline (CD) or measure (MS). Early retirement measures must have all three cases, while replace on burnout and new construction measures will typically only have the code baseline.

All measure technologies must follow the ED standard naming convention described below. As part of phase 2, ED will review IOU measure technologies for measure technology classification.

In some cases, IOUs will submit workpapers for identical or nearly identical measures, with identical or nearly identical technologies. As part of phase 2, ED will review IOU classifications and names to ensure consistency across all IOUs for similar or identical measures and technologies.

Sector: List the major sectors associated with the technology. DEER currently defines a list of sectors.

If a new sector is proposed, discussion of the proposed sector should be provided in the body of the submittal. The sector should be the same for all measure cases (CA, CD, MS).

Category: The major category or enduse associated with the technology. Only a single category should be listed. If a new category proposed, discussion should be provided in the body of submittal.

Sub-Category: A refinement of the general *Category* that represents the highest classification level that may have common *impact load shapes* for a specific application of the technology. There should be only one entry here for each technology case. It is likely that the sub-category will be the same for all measure cases. In some cases it will be different, such where a CFL replaces an incandescent lamp or a LED fixture replaces a HID fixture. If a new sub-category is proposed, discussion should be provided in the body of the submittal.

Technology Group(s): The general technology group that represents an accumulation of similar technologies. Technology groups may consist of features like capacity ranges, usage or common traits. All entries within a technology group must share the same normalizing units. Examples from the current DEER technology groups are "Split AC less than 65 kBtuh" and "Typical CFL Schedule." It is likely that groups for non-DEER measures will be completely new and not included in the current list of DEER technology groups. For example, the LCD television measures are divided into LCD and Plasma size ranges such as: <28", 28"-32", etc. Additionally, variation across the measure cases may start at the group level, but most likely no earlier.

Technologies: The specific measure technologies. It is likely that technologies for non-DEER measures will be completely new and not included in the current list of DEER technologies. For example, the LCD television measures are divided into EnergyStar ratings for their appropriate groups. The energy specific EnergyStar rating (e.g.; Tier 3, Tier 4, etc.) for a particular group will also designate a specific unit energy consumption (UEC) for that particular combination of group and technology.

Technology Units: The units for savings and cost information associated with this technology. All technologies within the same Technology Group have the same units.

Technology EUL/RUL ID: This ID associates a standard (DEER) EUL/RUL ID to be used to look-up estimated useful life and remaining useful life data for the technology. An EUL/RUL must be identified for each case (CA, CD, MS) since they may not be the same for all cases. For example, an LED fixture measure may be defined as an LED fixture replacing an HID fixture. The LED and HID fixtures have different EULs. The EULs not only affect the measure life, but also the economic calculations since replacement intervals must be aligned.

Technology Source: The source of the technology definition. Many technologies are already defined in DEER, particularly CA and CD technologies. In most cases, at least the measure case covered in a workpaper will be a completely new technology definition. In these cases the workpaper itself is the source of the technology definition. For measures evolving out of emerging technology projects, the emerging technology project should be specifically identified

as well.

Load Shape Category: Impact load shapes are required so that overall annual benefits can be allocated to each hour of the year (for electricity) and each month of the year (for natural gas). The *Load Shape Category* is the level of classification from above (i.e. Category, Sub-category, Technology Group or Technology) that specifies the load shape associated with this technology. The default is "Sub-Category", but lower levels (tech group or technology) may be specified as appropriate, and "Category" may also be appropriate for some technologies (such as Residential Indoor Lighting).

Load Shape Reference: This should be a reference to a new or existing impact load shape. If a new load shape, the development should be included in the workpaper submitted in support of the measure. If an existing load shape, the rationale for selection of the load shape should be included in the supporting workpaper. The impact load shape consists of direct enduse and whole building impact load shapes. If the measure has no interactive effects (see Table 3) with HVAC systems, then the direct enduse and whole building impact load shapes will be identical.

Table 3: Measure Energy Impacts Documentation

The Measure Energy Impacts Documentation table catalogs all references to measure energy impacts including annual energy consumption, peak demand and interactive effects.

Unit Energy Consumption (UEC) Value Reference: If impacts are based on differences between measure case UEC values, this is a reference to a table of all UEC values used in calculation of impacts for measures covered by this workpaper. If a measure has interactive effects with HVAC systems, UEC values must consider direct enduse and whole building energy use for both electricity and natural gas. Alternatively, an approach that applies interactive effects factors may be applied and documented under interactive effects. UEC (or UES) values must also consider appropriate weights of building populations and HVAC system saturations. Standard weighting procedures are also addressed by A.08-07-021 et al. and are covered in Part B of this document.

Unit Energy Consumption (UEC) Documentation Reference: If impacts are based on differences between measure case UEC values, this is a reference to the section of the workpaper that covers the UEC calculation methodology.

Unit Energy Savings (UES) Value Reference: A reference to a table of UES values for all measure technologies supported by this workpaper. If a measure has interactive effects with HVAC systems, UES values must consider direct enduse and whole building energy use for both electricity and natural gas. Alternatively, an approach that applies interactive effects factors may be applied and documented under interactive effects.

Unit Energy Savings (UES) Documentation Reference: If impacts are based on differences between measure case UEC values, then this reference is not necessary. However, if UES are based on some other methodology (such as scaling of an existing DEER UES value), then this is a reference to the section of the workpaper that covers the UES calculation methodology.

Unit Peak Demand Value Reference: If impacts are based on differences between measure case peak demand values, this is a reference to a table of all peak demand values used in calculation of impacts for measures covered by this workpaper.

Unit Peak Demand Documentation Reference: If impacts are based on differences between measure case peak demand values, this is a reference to the section of the workpaper that

covers the peak demand calculation methodology.

Unit Peak Demand Savings Value Reference: This is a reference to a table of peak demand savings values for all measure technologies supported by this workpaper.

Unit Peak Demand Savings Documentation Reference: If impacts are based on differences between measure case peak demand values, then this reference is not necessary. However, if peak demand savings are based on some other methodology (such as scaling of an existing DEER peak demand savings value), then this is a reference to the section of the workpaper that covers the peak demand savings calculation methodology.

Interactive Effects Value Reference: Many building level measures have interactive effects with HVAC systems. If interactive effects are determined using "interactive effects factors" or multipliers applied to the direct enduse impacts, then this is a reference to tabulated values for these factors. Interactive effects factors must include both electricity and natural gas adjustments.

Interactive Effects Documentation Reference: If interactive effects are based on the application of interactive effects factors, instead of annual direct enduse and whole building impacts, then this is a reference to the section of the workpaper that covers interactive effects methodologies.

Table 4: Program and Delivery Information

Utility: This may be a single Utility or multiple Utilities. Utilities should submit a single workpaper for measures with identical technologies and delivery mechanisms.

Program Design: A reference to the workpaper section that describes the program design and program elements. Important program elements include the program type (early replacement, replace on burnout, new construction, etc.), delivery mechanism (downstream rebate, direct install, etc.) and target markets.

Technology Cost Value Reference: A reference to a table of cost values for each discreetly tracked measure covered by the workpaper. DEER cost IDs may be applicable for certain cases, such as customer average and code baseline. However, since workpapers are submitted only for non-DEER measures, the measure case will often not be available from DEER.

Technology Cost Documentation Reference: For costs not currently included in DEER, this is a reference to the section of the workpaper that covers measure costs.

Net-To-Gross: This is a reference to the workpaper section that documents the determination of the correct DEER Net-To-Gross value or values. More than one Net-To-Gross value may be applicable if the workpaper includes more than one program or delivery mechanism.

Implementation Requirements: A reference to the workpaper section that lists measure implementation requirements. The workpaper should describe any implementation requirements in addition to the actual hardware needed to ensure savings of the measure. For example, savings of a variable speed pool pump may require the pump low speed setting to be as low as possible and still enable the minimum necessary water changes per day. This will result in longer run times, but the lower flow rates will result in lower pressure, reducing pump power and the overall amount of electricity needed for adequate pool water changeover. In this case, the field setup, control and commissioning of the hardware are critical to achieving the savings for the measure.

Measure Documentation: This is a reference to the workpaper section that lists measure documentation requirements. The workpaper should list and describe the required documentation for implementing the measure. This information will be maintained by the Utility for future program evaluation and EM&V activities. This typically includes, but should not be limited to:

1. Photographic pre- and post-measure implementation.
2. Customer statement of operating hours.
3. Invoices for material and labor.
4. Prior and post measure utility bills.
5. Pre- and post measure data collection.
6. Final operating and control conditions

Eligibility: This is a reference to the workpaper section that lists measure eligibility requirements. The workpaper should list and describe the specific site or customer eligibility requirements for the measure.

For example, for an industrial pipe insulation measure, the eligibility requirements might be:

1. Un-insulated, existing piping systems (retrofit).
2. Steam systems operating between 5psig and 20psig.
3. ½" minimum pipe diameter
4. Must install at least 1" of fiberglass (k=0.19 units) insulation or equivalent.

3B. Standardized methods for weighting together or utilizing DEER measures in the development of non-DEER measures

ED is in the process of developing standardized methods for weighting DEER measures across: a) building types; b) climate zones, and c) HVAC system types. These methods will be published for review by December 15, 2010. ED will periodically develop other methods as needed and will post them to the Basecamp site (see 3C below).

3C. Web-Based Submission Database and Tracking System

The purpose of the web-based system is to ensure that the minimum required information is submitted in support of a measure or group of measures. Energy Division recognizes the volumes of workpapers that the utilities have already prepared and the need to begin review as soon as possible. Thus the uniform web-based system will be implemented in at least two stages. Utilities will use the Energy Division hosted Basecamp site for uploading workpapers and sharing ED review documents and communications. ED will maintain a simplified document such as a spreadsheet for keeping track of workpaper review status.

For the first stage, workpapers must be uploaded to the dedicated Energy Division Basecamp site for phase 2 workpaper submissions. The site contains the following projects:

IOU: All IOUs – Phase 2 Review Shared: ED will post documents to this project that are relevant

to phase 2 work in general. This project will be accessible to all ED staff, ED consultants and all IOUs. These are documents and supporting files that apply to all IOUs where confidentiality is not an issue. Additionally, ED may post documents that are IOU specific, but the IOU and ED have agreed to post to the project viewable by all parties.

IOU: PG&E – 2010-12 Phase 2 Workpapers: This project is for posting of PG&E workpapers, supporting documents and ED documents and communications that are specific to the review of PG&E workpapers. PG&E, ED staff and ED consultants will have access to this site.

IOU: SCE – 2010-12 Phase 2 Workpapers: This project is for posting of SCE workpapers, supporting documents and ED documents and communications that are specific to the review of SCE workpapers. SCE, ED staff and ED consultants will have access to this site.

IOU: SDG&E – 2010-12 Phase 2 Workpapers: This project is for posting of SDG&E workpapers, supporting documents and ED documents and communications that are specific to the review of SDG&E workpapers. SDG&E, ED staff and ED consultants will have access to this site.

IOU: SCG – 2010-12 Phase 2 Workpapers: This project is for posting of SCG workpapers, supporting documents and ED documents and communications that are specific to the review of SCG workpapers. SCG, ED staff and ED consultants will have access to this site

Requirements for uploading files to Basecamp:

1. A utility shall only upload files to its utility specific project. ED will upload files to the common 'Energy Division Review Documents' projects if ED and a utility agree to do so.
2. All workpapers shall be in a .zip compressed file format with only one workpaper and supporting documentation per compressed file.
3. **Each compressed file shall have a unique file name.** If an uploaded file has an identical name to a file already uploaded, ED will delete the file from the Basecamp site and it will not be considered "submitted." If a compressed file contains a revised workpaper of a previously submitted workpaper, then the utility will name that file with an identical filename as the previously submitted workpaper, but with the addition of a subsequent "_a", "_b", "_c", etc.

Appendix A

From the Attachment to ALJ Ruling A.08-07-021 et al.:

3. Phase 2 – Standard Ex Ante Review and Approval Process

The section describes the general process for submission, review, and acceptance/approval of measures for the non-DEER measure database on a going forward basis after March 31, 2010. The level of detail of the review of measures will be performed as ED resources permit or as ED deems appropriate based upon the importance of measure(s) to the overall Utility portfolio. Updates to frozen values may be made whenever errors in the measure submission are identified; such updates, as determined by D.09-09-047 are by mutual agreement between ED and the Utilities with the exception that errors that are purely typographical or transcriptional in nature may be corrected by ED as needed with notification to the Utilities.

A. Uniform Workpaper Template

For future addition of “new”¹ non-DEER measures to utility portfolio, ED will publish a draft uniform measure workpaper template by end of the 2nd Quarter in 2010. The Utilities may provide ED with comments on this draft template within 30 days of issuance of this draft document. ED will consider any Utility or other party comments on the draft and publish within 15 days thereafter a uniform measure template that the Utilities will use for all future new non-DEER measure submissions. This template will replace all current workpaper formats.

B. Standardized methods for weighting together or utilizing DEER measures in the development of non-DEER measures

As discussed in D.09-09-047 ED has identified some incorrect or inappropriate use of DEER values in the Utility filings. In some instances the utilities have utilized inconsistent approaches to combining or weighting together multiple detailed DEER values into DEER based non-DEER measures. In other instances the Utilities have not utilized appropriate air-conditioning and heating technology saturation data when utilizing DEER values for either their measure planning estimates or in the development of DEER based measure values for their workpapers. As directed by D.09-09-047 ED will publish a document which outlines the ED approved methods for utilizing DEER values and approaches in the development of DEER derived workpaper values. ED will publish this document by the end of the 2nd Quarter in 2010.

C. Web-Based Submission Database and Tracking System

ED will implement a web-based new non-DEER measures submission site and user interface by end of the 2nd Quarter in 2010. ED will conduct at least one web-based

¹ The Commission’s Energy Division defines new non-DEER measure here to be those non-DEER measures that are not in the utilities’ E3 Calculator compliance filings per D.09-09-047.

orientation.

D. Preliminary Review

Utilities submit non-DEER measures following the uniform template using the ED provided web-based submission process described above.

ED will maintain a log and index of submissions, as well as central file storage location for measure documentation. The non-DEER measure log is used for the following purpose:

- Maintaining a central data base of work papers submitted.
- Reviewing measures submitted by sector, measure category and sub-category.
- Tracking reviews and feedback to Utilities.

In the preliminary review, ED will perform an audit of the utility submission and determine if the minimum data requirements are met. If the submission is incomplete, ED will notify the utility and request for the work paper to be resubmitted with the missing information. The preliminary review will be completed within 15 days of work paper submission.

E. Detailed Review

Once a work paper with all necessary information has been submitted, the ED will determine priority for detailed reviews. Detailed review priority will be based on:

- Fraction of utility total portfolio planning/compliance/reporting filing kWh, kW or therms savings estimates.
- Potential for inclusion into DEER.
- Number of utility measure reviews completed (to balance review processing across utilities).
- Potential for growth of measure in portfolio.

NOTE: Given the large number of measure submissions with only a small percentage representing measures with more than a fraction of a percent contribution to the overall portfolio planned savings, some measures with very small portfolio savings contributions may only be subjected to a preliminary review. However, if a measure subjected to only a preliminary review due to minor portfolio contribution undergoes a significant portfolio change then the ED may, without IOU concurrence, re-evaluate the decision to not fully review the measure submission. ED may choose to re-evaluate a decision not to review a measure if a utility quarterly report indicated that a measure may exceed a five-fold increase in savings claims compared to previous Utility planning or compliance filing estimates or if a non-HIM measure (one with less than an estimated approximate one percent contribution to a Utility portfolio) becomes a HIM for a Utility. See the retrospective review section below for more details and restrictions on this option.

ED will complete the review and provide a recommendation and comments on the measure. The possible review recommendations include:

Approved – No changes to submission are required.

Conditional Approval – ED makes specific revisions to submission, which, if agreed to by ED and utility, the measure is approved.

Resubmission Required – The measure submission requires additional information or specific revisions or additions for ED to make an approval recommendation.

Rejection – The measure does not fall within the definition of an energy efficiency measure or does not meet CPUC requirements for inclusion into a utility portfolio.

F. Measure Disposition Upon Review

If the measure submission successfully passed the preliminary review, and a detailed review was deemed unnecessary, ED will notify utility contacts within 25 days of receipt of a work paper with all necessary information of an “Approved” or “Conditional Approval” decision regarding that work paper.

If the measure submission successfully passed the preliminary review, and a detailed review was performed, ED will notify the utility of its decision and provide all ED review comments to the utilities within 25 days of receipt of a work paper with all necessary information.

Once disposition is complete, ED will update the log with the dates and status of all reviews and the final decision. The database of non-DEER measures will include information on the history of review, revision and approval of non-DEER measures.

G. Resubmission

If the disposition for the measure is “Resubmit”, the Utility has the option to make revisions to address ED’s comments/concerns and then resubmit for approval. The utility shall submit a redlined and final version to ED. Each measure submission should contain a revision block at the end of the workpaper with the following ED tracking data:

- Measure submission revision #
- Date of submission
- Brief description of revisions

Upon resubmission, ED will provide final disposition within 20 days from the date the work paper is resubmitted. If ED determines that the Utility resubmitted workpaper does not fully address the comments or concerns of the previous review, ED may take one on the following actions:

- a. Return the resubmission to the Utility for correction;

- b. Direct its review team to make appropriate modifications to the workpaper and accept the workpaper in its modified form with the provision that the Utility may choose to resubmit the workpaper at a later date;
- c. Accept the workpaper under the constraint the Utility mutually agrees that the measure will be subject to the Retrospective review process in E below;
- d. Accept the workpaper as submitted.

H. Retrospective Review

As indicated above, the ED will continuously monitor the utility portfolio contributions from non-DEER measures. If measures are initially classified, based on non-HIM status in the planning and compliance filings, as lower priority and therefore, not subjected to a detailed review, ED may revisit the measure review decision and perform a detailed measure review if a utility total portfolio contribution increases significantly over the planning/compliance filing estimates. For example, if the planning and compliance filing does not specifically list a measure as a HIM (only measures that were expected to comprise approximately 1% of portfolio accomplishments were required to be identified in the planning/compliance filing as HIMs) yet that measure accounts for 1% or more of any utility quarterly cumulative accomplishments or is expected to reach that level by the end of the 2010-2012 program cycle, ED may choose to reopen the review of that measure. Similarly, if a non-HIM or HIM measure contribution to any portfolio increases by more than five-fold over planning estimates ED may chose to reopen the measure review.

Additionally, if a measure has a significant change in delivery approach, is subject to a new code requirement, or has a basic change in its technology content or efficiency level, ED may require either an update to the measure workpaper or require a new measure be submitted to properly document the latest measure definition. Utility contacts will be notified once a retrospective review is initiated, and ED agrees to complete the review and provide an updated disposition within 30 days.

4. Revisions to Ex Ante Review and Approval Process and Documents

As knowledge regarding the efficacy and usage of energy efficient technology advances, it is expected that the minimum amount of information and detail required for determining technology load impacts and the resultant cost-effectiveness parameters will change. Therefore, ED shall have the authority to revise this process and referenced documents. Flexibility to change this process is essential for ensuring the ratepayer-funded programs administered by utilities continue to pursue the most cost-effective, energy efficient technologies.

ED is also committed to improving the process for reviewing and approving non-DEER energy efficiency measures. In addition to internal efforts to make improvements, ED welcomes suggestions from utilities and other key stakeholders, particularly in how to streamline the process or improve the accuracy of calculating measure impacts. The guidelines below are intended to provide transparency and timely notice of changes to this process as ED identifies and implements these improvements.

A Guidelines for Revising the Non-DEER Measure Submission Process

ED will post proposed modifications to this process or any referenced documents to ED's Public Documents Area website (<http://www.energydataweb.com/cpuc/default.aspx>). The notification will include the following:

- a. Summary of changes along with justification for changes.
- b. Red-lined versions of the affected documents.
- c. Schedule for adoption of changes.

Parties will have 15 days to make comments on the change. Comments are to be posted to ED's Public Documents Area website.

After the 15 day comment period, ED will review comments and draft a final version of the proposed changes.

ED will post on the CPUC's Energy Efficiency webpage the final changes to the process or referenced documents including a summary of comments and actions taken or not taken in response to those comments. Once posted, the changes will be effective immediately.

(END OF ATTACHMENT)